

# NOTES ON *ERITRICHIMUM* (BORAGINACEAE) IN NORTH AMERICA

David F. Murray

University of Alaska Museum of the North  
907 Yukon Drive  
Fairbanks Alaska 99775-6960, U.S.A.  
dfmurray@alaska.edu

## ABSTRACT

Lectotypes are chosen for *Eritrichium chamissonis* and *E. aretioides*.

## RESUMEN

Se escojen lectotipos para *Eritrichium chamissonis* y *E. aretioides*.

### Typification of *Eritrichium chamissonis* DC. and selection of a lectotype.

*Eritrichium chamissonis* DC. is a small, cushion-forming plant of the Bering Strait region, which is how Wight (1902) and then Hultén saw it (1968). Later, however, Hultén (1973) came to believe that he had been led astray by Wight who applied *E. chamissonis* to the plants with flowers included within or barely exerted from the cushion of stems and leaves. Hultén's change in thinking was brought about by two errors. First, he decided that a cushion form should be named *E. aretioides* (Cham.) DC., because Popov's (1953) illustration of "aretioides" showed a densely pulvinate plant (Plate 25, fig. 1), and second, Hultén believed the type specimen of *E. chamissonis* had long flowering stems, which is at odds with the original description of de Candolle (1846).

As to the first assumption, Jurtzev and Petrovsky (1980) determined that Popov had unknowingly illustrated a distinct, densely pulvinate species, not *Eritrichium aretioides*, but one that had gone unrecognized until the publication of *E. tschuktschorum* Jurtzev & V.V. Petrovsky, which on leaf morphology alone is readily separable from both *E. aretioides* or *E. chamissonis*.

As to the second assumption, the descriptions by de Candolle of *Eritrichium aretioides* and *E. chamissonis* are brief, and the two species are not well differentiated; nevertheless, he made clear that *E. chamissonis* is a plant with the shorter stems of the two. In fact, the flowers of *E. chamissonis* at anthesis rise no farther than the surface of the tuft, whereas *E. aretioides* has flowering stems well above the tuft. Some *E. aretioides* plants are densely compact, but differ from *E. chamissonis* in the length of the flowering stem and thus the position of the flowers. Hultén had no reason to doubt Wight's account.

De Candolle (Prodromus 10:125. 1846) published a description of *Eritrichium chamissonis* based on specimens originating at LE, collected by Chamisso or Eschscholtz during the voyage of the *Rurik* 1816 or 1817. De Candolle referred unequivocally and unambiguously to St. Lawrence Bay, "ad sinum Sancti-Laurentii ad fretum Beering (Cham.!) " but then continued "in Kamtchatka (h. ac. Petr.!)", thus at least two localities and thus two specimens, or syntypes, were the basis for his new species. He added a direct reference to what Chamisso had reported earlier (Chamisso & Schlechtendal, *Linnaea* 4:442. 1829) as *Myosotis villosa* Ledeb., but obviously not all of the plants so named by Chamisso were regarded by de Candolle as *M. villosa*. Chamisso in his account was clear that the locality for his *M. villosa* was St. Lawrence Bay. He made no reference to Kamtchatka.

A review of the type sheet at G-DC was undertaken, first with excellent digital images provided by G, then with a visit to G. Mounted on the type sheet at G-DC are two collections. The one from Kamchatka, collector unknown, provided to de Candolle by a colleague at LE ("h. ac. Petr.!" in the original description). This specimen is labeled *Myosotis villosa* Ledeb., and with its strongly exerted, leafy flowering stems, does not match the description of *Eritrichium chamissonis*: "... racemulis pauciflorus brevissime exertis," instead it clearly resem-



bles *E. villosum* (Ledeb.) Bunge. This specimen cannot be considered as *E. chamissonis*. Why de Candolle would make a direct reference to the Kamchatka specimen is a curious contradiction of his own description.

The other specimen on the type sheet, also labeled *Myosotis villosa*, is a specimen that matches the description of *Eritrichium chamissonis* as the flowers barely exceed the cluster of sterile, leafy shoots, and it is clearly attributed to Chamisso. However, this one is labeled "St. Lorenz insel" meaning St. Lawrence Island. This specimen, while a perfect match with the description of de Candolle, is in conflict as to location. However, the *Rurik* visited both St. Lawrence Bay, Chukotka, and St. Lawrence Island, Alaska, during its voyages.

De Candolle took the locality Lawrence Bay directly from what Chamisso (in Chamisso and Schlechtendal 1829) had written under *Myosotis villosa*. Yet, neither of the two specimens on the type sheet is from St. Lawrence Bay. That de Candolle failed to add St. Lawrence Island to his description, despite the label on the sheet before him, must have been a *lapsus calami*. It is otherwise impossible to reconcile the discordance.

An herbarium sheet at LE bearing Chamisso's signature *breve*, labeled *Myosotis villosa*, and from St. Lawrence Bay, would seem to be what is referred to in the description of *Eritrichium chamissonis*, but it is clearly not consistent with it, inasmuch as the flowering stems are tall, leafy, rising well above the basal leaves, thus closer in habit to *E. villosum* or *E. aretioides* than to *E. chamissonis*. That sheet cannot be considered as the basis for *E. chamissonis*.

Another LE sheet has been labeled, incorrectly, as holotype by Ovchinnikova (2008). The specimens are attributed to Eschscholtz. Ovchinnikova (2008) reported the locality as "Sin. St. Laur[enti]"; the handwriting on the original labels attached to that sheet is not easy to decipher. Who wrote that note is not known (V.V. Petrovsky, pers. comm.). There is no evidence at LE or G-DC that this material was seen by De Candolle.

Not found at LE is a sheet with specimens of *Eritrichium chamissonis* from St. Lawrence Island from which the specimen on the type sheet at G-DC might have been taken. The source of that specimen at G-DC remains unknown.

Nevertheless, de Candolle did have before him and most certainly he based his description of *Eritrichium chamissonis* on the Alaskan specimen. De Candolle did not designate a type, therefore, there can be no holotype. The specimen, a syntype, on the type sheet at G-DC from St. Lawrence Island, Alaska, is designated here as lectotype for *E. chamissonis* DC.

***Eritrichium chamissonis* DC.**, Prod. 10:125. 1846. TYPE: ALASKA: St. Lawrence Island (LECTOTYPE, designated here: G-DC! G00204592, top plant).

### **Typification of *Eritrichium aretioides* (Cham.) DC. and selection of a lectotype (with a contribution by Kanchi N. Gandhi).**

It is known from Chamisso and Schlechtendal (1829) that Chamisso collected his new species *Myosotis aretioides*, mixed with *M. villosa*, at St. Lawrence Bay, Chukotka, and also from St. Lawrence Island Alaska. Since two localities were given by Chamisso, the name *M. aretioides* must be based on one or more of the syntypes, and a lectotypification is necessary.

Ovchinnikova (2008) cited an Eschscholtz specimen from St. Lawrence Island ("Ins. St. Laurentii. Eschscholtz") at LE as holotype of *Myosotis aretioides*. Although her incorrect usage of the term "holotype" could be taken as a case of implied lectotypification (cf., Melbourne Code Art. 9.9; McNeill & al. 2012), she did not lectotypify the name. This is because for any advertent lectotypification of a name done from 2001, the typifying author must include the phrase "designated here" or its equivalent (Melbourne Art. 7.10). Therefore, it is concluded that Ovchinnikova did not lectotypify *M. aretioides* and that the name needs a formal lectotypification.

The "type sheet" for *Myosotis aretioides* at G-DC has three specimens mounted on it. One of these can be dismissed as unrelated to *M. aretioides*. Another is from the Academy in St. Petersburg (LE) with a printed label *Myosotis aretioides*, Sinus st. Laurentii, but a collector not recorded. The third bears a handwritten label with the signature *breve* of Chamisso, from Insula St. Laurenti, determined *M. aretioides* with the symbol for *mihi*. This would be better as the type for *M. aretioides*. Whereas a specimen at LE seen by Chamisso would have



greater standing, there is no Chamisso specimen at LE from which the one at G-DC might have been taken or one that better represents Chamisso's intentions. Since the specimen at G-DC was determined by Chamisso and furthermore connects Chamisso to de Candolle, that specimen is designated here as lectotype.

**Myosotis aretioides** Cham., *Linnaea* 4:443. 1829. TYPE: ALASKA: St. Lawrence Island, Chamisso s.n. (LECTOTYPE, designated here: G-DC! G00204671, right-hand plant).

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